

WHAT IS CLAIMED IS:

1. A method for eliciting a compound having therapeutic activity from a plant or plant part, comprising the steps of:

- a) contacting a living, intact plant or plant part with an effective amount of acetic acids; and
- b) allowing the acetic acid to induce or improve the production of a compound from the plant or plant part.

2. The method of claim 1, wherein the plant or plant part is contacted with an acetic acid in a concentration of about 0.1% acetic acid.

3. The method of claim 1, wherein the aqueous medium is water.

4. The method of claim 1, further comprising recovering the compound from the plant or plant part.

5. The method of claim 4, wherein the recovery step comprises extracting or exuding the compound into an aqueous medium and collecting the compound from the aqueous medium.

6. The method of claim 5, wherein the extracting comprises macerating the plant or plant parts in an aqueous medium.

7. The method of claim 1, wherein the plant part is a plant root.

8. The method of claim 1, wherein the therapeutic activity is selected from the group consisting of anti-microbial activity and anti-cancer activity.

9. The method of claim 8 wherein the anti-microbial activity is selected from the group consisting of anti-bacterial activity and anti-fungal activity.

10. The method of claim 1, further comprising providing a chemical library of compounds recovered from the aqueous medium in an amount sufficient to assay for biological activity.

11. The method of claim 1, wherein the step of extracting the compounds comprises removing cuticular material located on the surface of a leaf by contacting the leaf surface with a solvent.

12. The method of claim 11, wherein the media is a liquid medium or an agar medium.

13. The method of claim 11, wherein the cuticular material is selected from the group consisting of lipid, wax, cutin, protein, primary metabolite and secondary metabolite.

14. The method of claim 13, wherein the cuticular material is a wax.

15. The method of claim 11, wherein the solvent is an organic solvent.

16. The method of claim 15, wherein the organic solvent is selected from the group consisting of methylene chloride and chloroform.

17. The method of claim 11, further comprising assaying the solvent solution for therapeutic activity.

18. The method of claim 17, further comprising analyzing the solvent solution to identify an agent which has the therapeutic activity.

19. The method of claim 17, wherein the therapeutic activity is selected from the group consisting of anti-microbial activity and anti-cancer activity.

20. The method of claim 19, wherein the anti-microbial activity is selected from the group consisting of anti-bacterial activity and anti-cancer activity.

21. The method of claim 17, wherein the step of assaying the solvent solution comprises contacting the solution with a medium containing a living microorganism and determining the rate of growth of the microorganism, whereby an inhibition of the growth of the microorganism is indicative of an agent in the solvent solution having therapeutic activity.

22. The process of claim 1, wherein the plant or plant part is obtained from a plant of a species selected from the group consisting of *Atropa Belladonna*, *Erythrina flabelliformis*, *Ipomoea tricolor*, *Erythrina crista*, *Celosia cristata*, *Gallium spurium*, *Laurus nobilis*, *Vitis Labrusca*, *Gratiola Officinalis*, *Symphitum Officinalis*, *Hosta fortunei*, *Cassia hebecarpa*, *Thalictrum flavum*, *Scutellaria altissima*, *Portulacca oleracea*, *Portulacca oleracea*, *Scutellaria certicola*, *Physalis cretica*, *Geum Fauriei*, *Gentiana tibetica*, *Linum hirsutum*, *Aconitum napellus*, *Aconitum napellus*, *Podophyllum emodii*, *Thymus cretaceus*, *Hosta fortunei*, *Carlina acaulis*, *Chamaechrista fasciculata*, *Pinus Pinea*, *Pegamum hamalis*, *Amarindus india*, *Carica papaya*, *Cistus incanus*, *Capparis spinosa inermis*, *Cupressus lusitanica*, *Diopiros kaka*, *Eryngium campestre*, *Aesculus woerlitzensis*, *Aesculus Hippocastanum*, *Cupressus sempervirens*, *Celtis occidentalis*, *Polygonum cuspidatum*, *Elaeagnus angustifolia*, *Elaeagnus commutata*, *Gentiana macrophylla*, *Brassica rapa*, *Sesbania exaltata*, *Sesbania speciosa*, *Spartina potentiflora*, *Brassica juncea*, *Helianthus annuus*, *Poinsettia sp.*, *Pelargonium zonale*, *Leontopodium alpinum*, *Lupinus luteus*, *Buxus microphylla*, *Liatris spicata*, *Primula japonica*, *Betula nigra*, *Filipendula vulgaria*, *Lobelia siphilitica*, *Grevillea robusta*, *Reseda luteola*, *Gentiana Littoralis*, *Campanula carpatia*, *Aesculus hippocastanum*, *Aesculus woerlitzensis*, *Ageratum conizoides*, *Psidium guajava*, *Ailanthus altissima*, *Buxus microphylla "japonica"*, *Hydrocotyle asiatica*, *Grevillea robusta*, *Brugmansia suaveolens*, *Thymus pulegioides*, *Thymus lema-barona*, *Thymus serpyllum (wild)*, *Gaultheria procumbens*, *Thymus serpyllum*, *Thymus carnosus*, *Thymus thracicus*, *Calycanthus floridus*, *Zingiber officinalis*, *Lamium dulcis*, "argenteus", *Thymus praecox "arcticus"*, *Thymus pulegioides "lemons"*, *Thymus speciosa*, *Thymus carnosus*, *Thymus*

pseudolamginosus, *Thymus vulgraris* "oregano", *Ficus religiosa*, *Forsythia suspensa*,
Chelidonium majus, *Thymus wooly*, *Thymus portugalense*, *Nicotiana tabacum*, *Thymus*
cytridorus "aureus", *Cactus officinailis*, *Lal lab purpurea*, *Juglans regia*, *Actinidia chinensis*,
Hemerocallis, *Betula pendula*, *Gardenia jasminoides*, *Taxodium distichum*, *Magnolia*
loebherii, *Crataegus praegophyrum*, *Larix decidua*, *Thuja occidentalis*, *Thuja orientalis*,
Cupressocyparis leylandii, *Pseudotsuga menziesii*, *Abies firma*, *Parthenocissus quinquefolia*,
Allium cernum (wild), *Juniperus blue* "pacific" *taraxacum officinalis*, *Yucca* sp.,
Ilexaquifolium, *Tsuga canadensis* "penola", *Ilex aquifolium*, *Tsuga canadensis* "penola", *Ilex*
cornuta, *Taxus hiksii*, *Taxus media*, *Metasequoia glyptostroboides*, *Pinus bungiana*, *Buxus*
sempervirens, *Stewartia koreana*, *Prunus* Sp., *Betula dahurica*, *Plantago minor*, *Acer*
palmatum "burgundy", *Acer campestre*, *Cotynus coggygria*, *Quercus robur* "fastigiata", *Acer*
truncatum, *Achyranthes bidentata*, *Allium japonicum*, *Carum capsicum*, *Agastache mexicana*,
Prunella vulgaris, *Tagetes minuta*, *Prunella vulgaris*, *Nepeta cataria*, *Ratibida columnifera*-
Fera, *Aster-Nova anglicae*, *Myrica cerifera*, *Pittosporum tobira*, *Taxodium distichum* (H20),
Taxodium distichum (Acetic acid), *Plantago major*, *Pinus sylvestris*, *Acorus canadensis*,
Pieris Japonica, *Pinus strobus*, *Trifolium pratense*, *Prunus serotica*, *Datura stramonium*,
Geranium maculata, *Hydrocotyle asiatica*, *Taxodium distichum*, *Astragalus sinicus*,
Centauria maculata, *Ruschia indurata*, *Myrthus communis*, *Platanus occidentalis*, *Licium*
barbatum, *Lavandula officinalis*, *Grevillea robusta*, *Hippophaë rhamnoides*, *Filipendula*
ulmaria, *Betula pendula*, *Polygonum odoratum*, *Brugmansia graveolens*, *Rhus toxicodonta*,
Armoracia rusticana, *Ficus benjaminii*, *Sluffera* sp, *Pelagonium zonale*, *Allium* sp, *Asimina*
triloba, *Lippa dulcis*, *Epilobium augustifolium*, *Brugmansia suavecolens* (old), *Brugmansia*
suaveolens (young), *Xanthosoma sagittifolium*. (leaf), *Xanthosoma sagittifolium* (stem),
Monstera deliciosa., *Aglaonema commutatus*, *Dieffenbachia leopoldii*, *Anthurium*
andreaum, *Syngonium podophyllum*, *Dracaena fragrans*, *Ananas comosus*, *Strelitzia*
reglinae, *Diffenbachia segiunae*, *Syngonium aurutum*, *Dracaena* sq, *haemanthus katharina*,
Anthurium altersianum, *Spathiphyllum grandiflorum*, *Spathiphyllum. cochlearispatum*,
Monstera, *pertusa*, *Anthurium magnificum*, *Anthurium hookeri*, *Anthurium elegans*, *Calathea*
zebrina, *Yucca elephantipes*, *Bromelia balansae*, *Musa textiles*, *Myrthus communis*, *Olea*
olcaster, *Olea europaea*, *Verium oleander*, *Cocculus laurifolius*, *Microsorium punctatum*,
Ficus sp., *Senseviera* sp., *Adansonia digitata*, *Boechimeria boloba*, *Piper nigrum*,

Phymatosorus scolopendria, Turnera ulmifolia, Nicodemia diversifolia, Tapeinochilos spectabilis, Rauwolfia tetraphylla, Ficus elastica, Cycas cirinalis, Caryota ureus, Cynnamonum zeylonicum, Aechmea luddemoniana, Foenix zeulonica, Ficus benjamina, Ficus pumila, Murraya exotica, Trevesia sungaica, Clerodendrum speciosissimum, Actinidia chinensis, Paeonia lactiflora, Paeonia suffruticosa, Quercus imbricaria, Iris alida, Portulacca oleracea, Polygonum aviculare, Iris pseudocarpus, Allium nutans, Allium fistulosum, Anthericum ramosum, Veratrum nigrum, Polygonum latifolia, Hosta lanceifolia, Hosta zibalda, Echinops spheeranthus, Paeonia dahurica, Inula helenium, Thymus pontica, Digitalis lutea, Bactisaria australis, Austrocyathus australis, Hissopus zeraucharicus, Feucium ham. edris., Sedum album, Heracleum pubescens, Origanum vulgare, Cactis alpina, Hesperis trilobum, Matteuccia struthiopteris, Sedum telchium, Bocconia cordata, Ajuga reptans, Thalictrum minus, Anemona japonica, Clematis rectae, Thalictrum sp., Alchemilla sp., Potentilla alba, Poterium sanguisorba, Menispermum dauricum, Oxybaphus nyctagineus. Armoracea rusticana, Crambe cordifolia. A. rimonia eupatoria, Anchusa officinalis, Poly monium ceruleum, Valeriana officinalis, Pulmonaria mollissima, Stachys lanata, Coronilla varia, Platycarya grandiflora, Lavandula officinalis, Vincetoxicum officinale, Acalypha hispida, Gnetum gnemon, Psychotria nigropunctata, Psychotria metbacteriodomasica, Codiaeum variegatum, Phyllanthus grandifolius, Pterigota alata, Pachyra affinis, Sterculia elata, Philodendron speciosum, Pithecellobium unguis-cati, Sanchezia nobilis, Oreopanax capitatus, Ficus triangularis, Kigelia pinnata, Piper cubeba, Laurus nobilis, Erythrina caffra, Metrosideros excelsa, Osmanthus fragrans, Cupressus sempervirens, Jacobinia sp., Senecio platyphylloides, Livistona chinensis, Tetraclinis articulata, Eucalyptus rudis, Podocarpus spinulosus, Eriobotrya japonica, Ginkgo biloba, Rhododendron, Thuja occidentalis, Fagopyrum suffruticosum, Geum macrophyllum, Magnolia kobus, Vinca minor, Convallaria majalis, Corylus avellana, Berberis sp., Rosa multiflora, Ostrya carpinifolia, Ostrya connexa, Quercus rubra, Liriodendron tulipifera, Sorbus aucuparia, Betula nigra (leaf), Betula nigra (flower), Castanea sativa, Bergenia crassifolia, Artemisia dracunculus, Ruta graveolens, Quercus nigra, Schisandra chinensis, Betula alba, Sambucus nigra, Gentiana cruciata, Encephalartos horridus, Phlebodium aureum, Microlepia platyphylla, Ceratozamia mexicana, Stenochlaena tenuifolia, Adiantum trapeziforme, Adiantum raddianum, Lygodium japonicum, Pteris crassifolia, Asplenium australasicum, Agathis robusta, Osmunda

regalis, Osmundastrum claytonianum, Phyllitis scolopendrium, Polystichum braunii, Cyrtomium fortunei, Dryopteris filix-mas, Equisetum variegatum, Athyrium nipponicum, Athyrium filix-femina, Parthenocissus tricuspidata, Ligusticum vulgare, Chamaeciparis pisifera, Rosa canina, Cotinus coggygia, Pinus strobus, Celtis occidentalis, Picea schrenkiana, Cydonia oblonga, Ulmus pumila, Euonymus verrucosus, Deutzia scabra, Mespilus germanica, Quercus castaneifolia, Euonymus europea, Securinega suffruticosa, Koelreuteria paniculata, Syringa josikaea, Zelkova carpinifolia, Abies cephalonica, Taxus baccata, Taxus cuspidata, Salix babylonica, Thuja occidentalis, Actinidia colomicta, Mahonia aquifolium, Aralia mandschurica, Juglans nigra, Euonymus elata, Prinsepia sinensis, Forsythia europaea, Sorbocotoneaster pozdnjakovii, Morus alba, Crataegus macrophyllum, Eucommia ulmifolia, Sorbus commixta, Philodendron amurense, Cornus mas, Kerria japonica, Parrotia persica, Jasminum fruticans, Swida sanguinea, Pentaphylloides fruticosa, Sibiraea altaiensis, Cerasus japonica, Kolkwitzia amabilis, Amigdalus nana, Acer mandschurica, Salix tamarisifolia, Amelanchier spicata, Cerasus mahaleb, Prunus cerasifera, Corylus avellana, Acer tataricum, Viburnum opulus, Syringa vulgaris, Fraxinus exelsior, Quercus trojana, Chaenomelis superba, Pinus salinifolia, Berberis vulgaris, Cotoneaster horizontalis, Cotoneaster fangianus, Fagus sylvatica, Pinus pumila, Pinus sylvestris and Berberis thunbergii.

23. A method of preparing a composition having therapeutic activity, comprising the steps of:

- (a) contacting a living intact plant or plant part with an effective amount of acetic acid;
- (b) allowing the acetic acid to induce a compound or component having therapeutic activity from the plant or plant part; and
- (c) collecting a composition comprising the compound or component.

24. The method of claim 23, wherein the composition is collected by macerating the plant or plant parts in an aqueous medium.

25. The method of claim 23, wherein the composition is collected by contacting a surface of the plant or plant parts with a solvent suitable for removing cuticular or epicuticular material.

26. The method of claim 23, wherein the amount of acetic acid is about 0.1% acetic acid.